2/6/86 N0280-1A

ARIZONA STATE UNIVERSITY ■ COLLEGE OF BUSINESS
BUREAU OF BUSINESS AND ECONOMIC RESEARCH

Quarterly Economic Forecast Update

Moderate Growth Likely Through '86

Economic performance in 1986 is likely to be somewhat better than, but generally similar to, the erratic, slightly subpar activity that has characterized the nation's economy since the second half of 1984. This phase of slower growth has persisted for six quarters, equaling the length of the rapid expansion that followed the 1981-82 recession.

REVIEW AND OUTLOOK

This pattern is remarkably similar to the stereotypic expansion: an average length of three years, split almost equally between a fast-growth phase and a slow-growth period. A typical expansion erodes into a recession after approximately six quarters of slower growth; however, three times during the war years of the 1960s another rapid expansion followed the slow growth phase. Neither condition is likely during 1986.

The two longest peacetime expansions - each lasting between four and five years - followed the severe recession of the mid-1970s and the depression of the early 1930s, the two worst downturns in the last 60 years. The double recession of 1980-82 must also be placed in this severe-downturn category. Thus, a clear precedent exists for the current expansion to last into 1987.

These lengthy expansions occurred because the severe downturns had

See "Forecast," page 2

In This Issue

6 '85 Index Available
7 Council of 100 Survey
8 '85 AZ Population Gain
9 Valley Homebuyer Survey
10 3rd Qtr. Construction Report
13 The "Not-Working Ratio"
15 Nov. Purchasing Survey
16 AZ Economic Indicators

Outlook from Leading Index Exceeds Bureau's

The Arizona Index of Leading Economic Indicators barely rose in October, following a large decline in September (see Figure I). October's 0.1 percent increase brought the index to 106.1 from 106.0 in September (1977 = 100).

Only five of the ten index components rose during October, another sign of mediocre economic performance. The two components that made the greatest contribution to the slim advance — unemployment insurance claims and delivery time — made similar negative contributions in September (see Table 1).

Changes in the other components were relatively small. The national

See "Leading Index," page 6

ARIZONA BUSINESS

VOLUME 33, NUMBER 1
JANUARY 1986

"Forecast," from page 1

placed the economy's growth far below its long-term trend. Because of the economy's cycle, long-term growth swings from above trend during expansions to below trend during recessions (see Figure I). At the end of 1985, the economy still had not attained its long-term trend, suggesting that further expansion is likely.

The economy's failure to yet reach its long-term trend, even after three years of expansion that included a year of the most rapid growth in 30 years (6.8 percent during 1984), is a result of unbalanced economic policies over the last 20 years. During this period, the nation's major economic issues have varied from inflation to large deficits, while the current problem is an unprecedented budget deficit that underlies an unheard-of trade deficit and very high real interest rates. These factors are responsible for the slow growth of the last six quarters. (While a slowdown from the rapid-growth phase was inevitable, the degree of the slide might otherwise not have been so steep.)

Progress has been made in recent months toward resolving these problems, with the effort to weaken the dollar and Congressional action to reduce the deficit. The former has lowered the dollar only to the level that precipitated the trade problems, and any effect on economic performance will be delayed. The latter has yet to produce a reduction large enough to have a significant impact on the economy. Thus, while promising for the long term, this progress is unlikely to have much effect on 1986 economic performance.

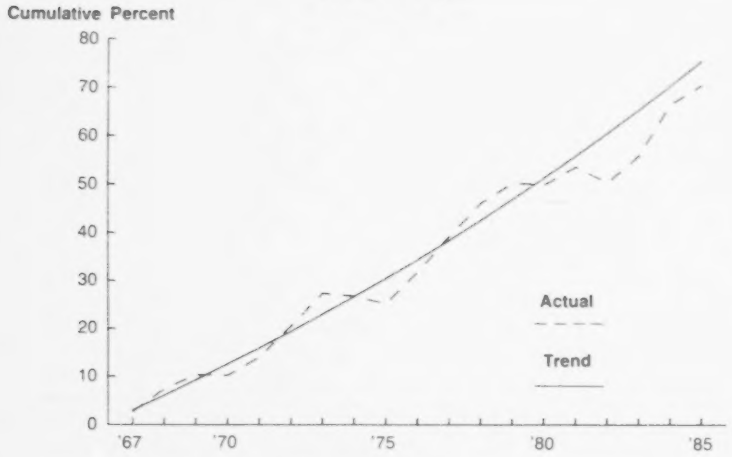
A Conflicting Indicator

Contradicting this forecast of average activity in 1986 is the year-over-year gain in the national Index of Leading Economic Indicators. In conjunction with strong advances in July and August and a revised increase in September, the October index suggests that economic growth during 1986 may be considerably stronger than in 1985 (see page 6). The stimulus apparently stems from the relatively loose monetary policy pursued throughout 1985, which led to rapid growth in the money supply (M1) and to falling interest rates. Because the impact of these conditions on economic growth is usually delayed, it is only now appearing.

If this acceleration in economic growth does occur, it likely will be followed by rising inflation. Interest rates are likely to rise as well. As a result, the probability of a recession during 1987 will be greatly enhanced.

The possibility of much-improved economic conditions has not been incorporated into the following forecast. Other indicators have not yet shown substantial improvement, and overriding economic problems remain. Having recently underestimated future economic growth (see the December *Arizona Business*), the leading index may currently be offsetting that error by overestimating future growth. In any case, GNP growth in 1986 should exceed the 2.4 percent rate of 1985.

FIGURE I
ACTUAL GROWTH IN GROSS NATIONAL PRODUCT COMPARED TO LONG-TERM TREND
(Since 1966)



Source: Bureau of Business and Economic Research, College of Business, Arizona State University

1986 NATIONAL FORECAST

Growth in the Gross National Product during 1986 should exceed that of 1985 because the very weak activity of the first half of 1985 should not be repeated. On the other hand, much more rapid growth should not be expected despite the sharp improvement in the third quarter 1985 GNP, which was merely an upward blip in the erratic quarterly pattern. In fact, second and third quarter GNP growth figures (1.9 percent and 4.3 percent) were nearly identical to those for third and fourth quarter 1984 (1.6 percent and 4.3 percent); these were succeeded by a 0.3 percent stagnation during first quarter 1985.

Control Forecast

As seen in Table 1, the annual average increase in both real GNP and in inflation is expected to be slightly higher in 1986 than in 1985. The unemployment rate will remain nearly steady although the "not-working ratio" (see page 13) will continue to decline. Economic growth is not expected either to slow or accelerate during the year, but the inflation rate is likely to increase slightly, as seen in the comparisons between the annual average and year-end percent changes.

Approximately 55 percent of the panel of the *Blue Chip Financial Forecasts* agree with this base forecast for 1985 of subpar-to-moderate growth, with little acceleration or deceleration. The erratic pattern of quarterly growth should continue, however.

Pessimistic Scenario

With no sign of an impending slowdown, this alternative assumes that

economic performance will be similar to that of the control forecast during the first half of 1986. During the second half, however, the economy will slow toward a recession. Because the deviation from the base forecast will not occur until late in the year, the annual average percent changes of the control and pessimistic scenarios, shown in Table 1, are not significantly different. The year-end figures, however, show a greater spread.

This scenario assumes that little additional progress will be made toward solving the economy's problems. The "two-tier" economy finally breaks down as slower growth in other sectors of the economy can no longer offset the near-recessionary conditions of the production sectors: manufacturing, mining and agriculture. In particular, a reduction in consumer spending, a result of record-low savings rates and record-high consumer debt levels, causes a slowdown in the trade and services sectors. Construction also declines due to overbuilding and reduced demand for housing.

The *Blue Chip* panel sees two versions of this pessimistic scenario for 1986. Approximately 20 percent expect the moderate-to-strong growth of the first half to slip during the second half. Ten percent predict a recession during 1986.

Optimistic Scenario

With no clear sign of an improving economy, this scenario also assumes that conditions during early 1986 will be little different from those of the control forecast. To achieve stronger growth, forceful action must be taken to reduce the budget deficit. At the same time, the dollar must continue to steadily decline. If these conditions are accompanied by further declines in real interest rates, a new round of strong economic growth could ensue. Much of the economic improvement during 1986 would be a result of greater business and consumer confidence, since the true impact of such factors as a lower dollar would take more time to develop.

Only 15 percent of the *Blue Chip* panel expect such a strong economy throughout 1986.

1985 ARIZONA ECONOMY

Actual data continue to trickle in on the performance of the Arizona economy during 1985. Some of the projected numbers for 1985 in Tables 2 and 3 have, therefore, been revised slightly since the last forecast issued three months ago. That forecast was slightly more pessimistic than those that preceded it; the weaker economic conditions of late summer that triggered the pessimism turned out to be temporary. The ongoing forecast of moderate, erratic growth has been generally accurate.

Personal income data are both tardy and heavily revised; thus, an accurate projection for 1985 remains difficult to make, with only two still-to-be-revised quarters of actual data available. Nevertheless, it appears that personal income grew approximately 10 percent in 1985, following a 13 percent gain in 1984. Based largely on personal income, Gross State Product is also difficult to project. It probably expanded at approximately one-half the record 1984 pace, a rate above its long-term average. In contrast, GNP grew at a slower pace during 1985 than its long-term average, illustrating the relative vitality of the Arizona economy. Most of this superior performance can be traced to record in-migration (see page 8 for more detail).

These record population gains are partially responsible for the state's rising unemployment rate during early 1985, but the rate has since stabilized and is less than the national level. Employment gains have continued at a moderately rapid pace.

Additional good news is the third quarter Metropolitan Phoenix Consumer Price Index. Unexpected slowing caused a downward revision in inflation estimates.

Real Estate

The largest revisions to the 1985 projections were made to the real estate indicators. Further declines in mortgage interest rates have been a major boost to single family housing, resulting in approximately 2,500 additional permits statewide than previously expected.

Activity in the multifamily market has continued at a much stronger level than anticipated; the projection of 36,700 units permitted statewide during 1985 exceeds the prior estimate by more than 5,000 units. Record in-migration has helped to keep the apartment vacancy rate from soaring, but it was still higher in Maricopa County during the third quarter, on a seasonally adjusted basis, than at any time in more than

TABLE 1
FORECAST OF KEY NATIONAL INDICATORS

	Actual 1984	Projected 1985	1986 Forecast Scenarios Control	Optimistic	Pessimistic
			Annual Average Percent		
Real Gross National Product	6.8	2.4	3.0	3.5	2.3
Consumer Price Index	4.3	3.4	4.0	4.3	3.4
Unemployment Rate	7.5	7.2	7.1	7.0	7.5
			Year-end Percent		
Real Gross National Product	5.7	2.1	3.0	3.9	1.5
Consumer Price Index	4.0	3.7	4.3	4.7	3.1
Unemployment Rate	7.1	7.1	7.1	6.8	7.9

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

TABLE 2
1986 ECONOMIC FORECAST: ARIZONA

	Actual	Projected	1986 Forecast Scenarios		
	1984	1985	*Control*	*Optimistic*	*Pessimistic*
Gross State Product					
Millions of 1972 Dollars	20,157	21,500	22,800	23,275	22,350
Percent Change	14.0	6.7	6.0	8.2	4.0
Personal Income					
Millions of Current Dollars	36,151	39,800	43,500	44,500	42,800
Percent Change	13.3	10.1	9.4	11.8	7.5
Retail Sales					
Millions of Current Dollars	19,399	21,350	23,150	23,700	22,625
Percent Change	11.6	10.0	8.5	11.0	6.0
Unemployment Rate					
Percent	5.0	6.3	6.9	6.3	7.5
Wage and Salary Employment					
Number in Thousands	1,181	1,260	1,329	1,355	1,310
Percent Change	9.6	6.7	5.5	7.5	4.0
Population					
Number in Thousands	3,091[E]	3,226	3,350	3,360	3,340
Percent Change	4.2	4.4	3.8	4.2	3.5
New Single Family Housing Units Permitted					
Number	30,845	35,475	32,000	35,500	27,000
Percent Change	-0.3	15.0	-9.8	0.1	-23.9
New Multifamily Housing Units Permitted*					
Number	47,539	36,700	20,000	28,500	11,500
Percent Change	43.0	-22.8	-45.5	-22.3	-68.7
Value of Building Permits					
Millions of Current Dollars	5,262	5,700	5,000	5,900	3,950
Percent Change	44.0	8.3	-12.3	3.5	-30.7

E = Estimated
*Apartment complexes of three or more units
Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

15 years. Further, the rate is likely to climb higher: Newly finished units are not included in the statistics, and many units are still under construction, some taking longer than usual to complete. Since the ongoing construction of apartments is a result of tax laws rather than need, this sector will continue to be difficult to predict.

Most of the other construction sectors were also stronger in 1985 than expected, especially office buildings, so the projected dollar value of all building permits was revised substantially higher.

ARIZONA OUTLOOK FOR 1986

The control forecast remains much the same as in previous forecasts. Both personal income and GSP should grow on a quarter-to-quarter basis as in 1985; the arithmetic of calculating an annual average is responsible for the lower estimate of both indicators for 1986. (The year-over-year percent change is lower for the beginning of 1986 than it was in early 1985.) The 6.0 percent GSP forecast is still greater than the 5.5 percent long-term average and double the forecasted rate of the GNP.

Retail sales are not expected to increase quite as rapidly in 1986 as in 1985. A slower rise in consumer debt and an increase in the savings rate is likely. As usual, retail sales should expand slightly more rapidly in Maricopa County than in the remainder of Arizona.

Nearly stable, rather than rising, unemployment rates are expected during 1986 in Arizona, matching the national outlook. The number of new jobs created during 1986 is expected to nearly equal the 1985 number, a more optimistic prediction than in prior forecasts or by most other forecasters. The percent change in employment during expansions is typically quite similar to the percent change in real personal income: Wage and salary disbursements make up nearly two-thirds of personal income. With almost stable inflation rates and only a slight decline in the growth rate of personal income expected during 1985, a large slowdown in employment growth is inconsistent.

Increases in population are conservatively expected to slacken slightly during 1986 from the record levels of 1985. The state's higher unemployment rate should have a slightly depressing effect on in-migration.

Real Estate

Reflecting the strong 1985 conditions, the 1986 forecast for real estate has been revised up. More single family homes should be permitted during 1986 than previously expected, although the number should be less than in 1985. A typical seasonal pattern should prevail during 1986, accounting for the difference; the seasonal downturn in 1985 was avoided because of falling interest rates. The single family housing sector would en-

joy its fourth consecutive solid year under the control forecast, its longest such period.

Multifamily construction will continue to decline during 1986, but the magnitude of the slide is uncertain due to potential changes in the tax code. The control forecast incorporates a sharp decline, but it is not as extreme as in prior forecasts, in recognition of continuous underestimates of this sector's activity.

The level of other commercial construction in 1986 is also uncertain, particularly of office buildings, which are in a situation much like that of apartments. The expected sharp drop in commercial construction will be tempered by only a small decline in residential construction and steady markets for industrial and other construction. The result will be a decline in the total value of building permits from the 1985 level, but a value much higher than in previous forecasts.

Maricopa County's share of all construction activity in Arizona should be slightly lower in 1986. The construction cycle in the Phoenix metropolitan area usually leads the cycle of the rest of the state.

Alternative Scenarios

With less uncertainty about economic events early in 1986, the range between the forecasts of the various scenarios is narrower than in the predictions issued three months ago. Only multifamily and other commercial construction remain highly uncertain because of the non-economic factors driving these sectors.

The relatively small difference between the optimistic and pessimistic scenarios during 1986 broadens considerably in 1987. In the pessimistic scenario, a recession is likely through at least the first half of 1987. Real GSP growth might be negative. In contrast, 1987 would be a boom year in the optimistic scenario, with real GSP approaching a 9 percent rise. Such boom conditions almost certainly would be short-lived, precipitating a recession in 1988.

The control scenario assumes that existing mediocre national conditions continue into 1987. It supposes that effective and sufficient attacks on the budget deficit do not materialize, at least by 1987. As the expansion ages, however, the probability of slow growth continuing without a recession lessens. The chance of a recession beginning in 1987 is substantial.

SUMMARY

The Arizona economy is unlikely to fall into a recession during 1986. Instead, another good, but not great, year should develop. Caution is advised, however, because the age of the expansion and the magnitude of the nation's economic imbalances make the economy fragile. It will be subject to action or inaction on political issues such as budget-cutting packages, protectionism and tax-code changes.

Looking ahead to 1987, only a major change in the nation's economic policies seems likely to prevent a downturn. By that time, the expansion will be one of the longest on record.

—**Tom R. Rex**
Research Manager

TABLE 3
1986 ECONOMIC FORECAST: MARICOPA COUNTY

	Actual	Projected	1986 Forecast Scenarios		
	1984	1985	*Control*	*Optimistic*	*Pessimistic*
Consumer Price Index					
Percent Change	5.8	5.3	5.4	5.8	5.0
Retail Sales					
Millions of Current Dollars	12,434	13,725	15,000	15,375	14,600
Percent Change	12.6	10.4	9.3	12.1	6.4
Unemployment Rate					
Percent	3.8	4.8	5.4	4.9	6.0
Wage and Salary Employment					
Number in Thousands	770	826	875	895	860
Percent Change	11.1	7.3	5.9	8.4	4.1
Population					
Number in Thousands	1,726[E]	1,811	1,885	1,890	1,880
Percent Change	4.6	4.9	4.1	4.4	3.8
New Single Family Housing Units Permitted					
Number	20,774	25,075	22,000	25,000	19,000
Percent Change	-0.9	20.7	-12.3	-0.3	-24.2
New Multifamily Housing Units Permitted*					
Number	36,817	26,250	14,000	20,000	8,000
Percent Change	53.8	-28.7	-46.7	-23.8	-59.5
Value of Building Permits					
Millions of Current Dollars	3,811	4,225	3,575	4,300	2,850
Percent Change	54.3	10.9	-15.4	1.8	-32.5

E = Estimated
*Apartment complexes of three or more units
Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

"Leading Index," from page 1
money supply (M2) recorded an unusual decline, and Arizona residential building permits slipped from the high levels recorded since July.

OUTLOOK

Although the gain in October's index was slight, it was enough to reduce the chance of a recession beginning during the next several months to less than 5 percent. The index continues to signal neither a recession nor a vigorous expansion.

The Arizona index, however, has grown more during the first 10 months of 1985 (1.6 percent) than during all of 1984 (0.7 percent). Based only on the Arizona leading index, then, growth in the Arizona economy during 1986 should be stronger than in 1985. The 1985 forecast of Arizona Gross State Product derived from the leading index was 5.8 percent, while the 1986 forecast is 8.0 percent, but the margin of error in these estimates is a large two to three percentage points.

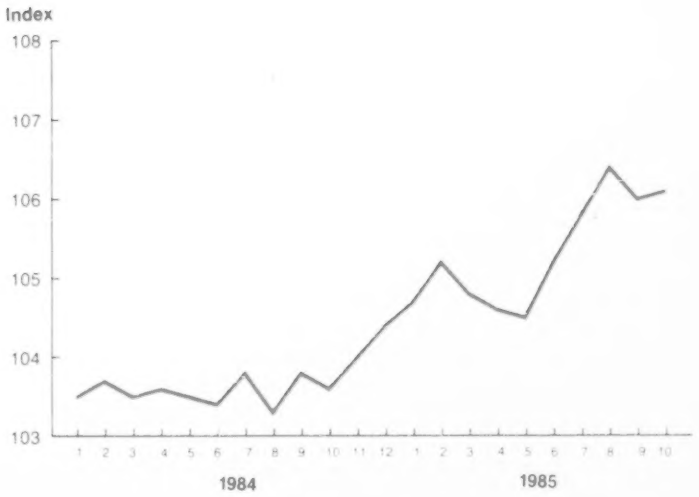
A first look at the November index leads to optimism, based on the five components derived from a survey of purchasing managers. While these components, on an unadjusted basis, indicate only a continuation of moderate economic growth (see page 15), the interpretation is more upbeat on a seasonally adjusted basis. Before adjustment, the components generally indicate slower conditions during November and December.

As a whole, these five components also rose moderately in October; the October-November gains are the strongest back-to-back since the summer of 1983. These components had slipped throughout 1984 and fluctuated around a flat trend line during the first nine months of 1985.

This stronger performance matches that of the national leading index, which rose for the sixth consecutive month in October. The October gain was a moderate 0.3 percent; the September increase was revised from a slight 0.1 percent to 0.4 percent. The early forecast of growth during 1986 in the Gross National Product, based on the national index, is 3.8 percent, sharply higher than indicated in prior months. Even if the index slips during November and December, 1986 GNP growth in excess of 3 percent will be indicated; further gains in the index could push the forecast past 4 percent.

— **Tom R. Rex**
Research Manager

FIGURE I
ARIZONA INDEX OF LEADING ECONOMIC INDICATORS



Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution*			
	July	*Aug.*	*Sept.*	*Oct.*
Delivery Time*	−.06	.10	−.11	.14
Inventory Levels*	.03	.06	−.09	.01
New Orders*	−.04	.13	−.09	−.01
Production*	.01	.07	−.03	−.05
Employment*	−.07	.12	−.15	.07
Residential Building Permits	.59	−.37	.03	−.16
Unemployment Insurance Claims	−.14	.16	−.21	.19
Average Workweek, Manufacturing	.06	.02	.07	−.08
Money Supply	.24	.35	.18	−.06
Change in Sensitive Materials Prices	−.05[r]	−.04	.01	.06
OVERALL INDEX	.57[r]	.59	−.39	.13

[r] Revised

* The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

* Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

'85 Index Available

An index to the 1985 issues of *Arizona Business* is available on request from the Bureau of Business and Economic Research by calling (602) 965-3961.

Council of 100 Optimistic on '86 Economy

The new year will bring a stronger national economy than experienced during 1985, according to a survey of the College of Business Dean's Council of 100. Council members are CEOs and executives at the senior level, primarily from firms in the metropolitan Phoenix area. They are polled at the beginning of the year and at mid-year by the Bureau of Business and Economic Research.

Council members were asked to compare expected real economic growth nationally in 1986 with 1985, and during the next six months with the previous six months (Table 1). Responses were weighted, then averaged, so that calculated scores of 50 for any entry indicate no change is anticipated, scores of more than 50 reflect expectations for improvement, and scores of less than 50 indicate that worsening business conditions are expected.

Scores for the most recent survey reveal more optimism about 1986 (score of 62) than was shown in the summer survey (score of 47). The summer survey also indicated that the executives expected the second half of 1985 to be stronger economically (score of 53) than the first half of 1985. It is likely that, when the final data are analyzed, this expectation will prove to have been correct. The next six months are expected to bring an even better national economy (score of 63).

Council members widely expect the sales and revenues of their firms to increase during 1986, compared to 1985 (score of 92), and they foresee little evidence of difficulties during the next six months (score of 91).

Responding to the survey six months ago, 59 percent of Council members correctly anticipated the fall in interest rates during the second half of the year. Only 10 percent of respondents to the current survey expect the prime rate to rise during the next six months (Table 2). Opinion is almost evenly divided on whether rates will be higher, lower, or the same one year from now.

TABLE 1
ASU COUNCIL OF 100
ECONOMIC OUTLOOK SCORES*

	National Outlook		My Organization	
Outlook Period	*(12/85)*	*(6/85)*	*(12/85)*	*(6/85)*
1986 Compared to 1985	62	47	92	95
Next Six Months	63	53	91	76

*Council members had three reply options to each question: Higher, Same, or Lower. The score for each question was calculated by averaging the weighted replies. The weights: Higher - 100; Same - 50; Lower - 0. Scores may range from 0 to 100, with higher scores reflecting a greater degree of optimism. Scores near 50 indicate no change, scores above 50 indicate expected improvement, and scores below 50 indicate expected worsening of business conditions.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

TABLE 2
ASU COUNCIL OF 100
PROJECTIONS FOR ECONOMIC VARIABLES

	Percent of Council Members Indicating Each Response					
	In Six Months			In Twelve Months		
Variable	*Higher*	*Same*	*Lower*	*Higher*	*Same*	*Lower*
Prime Rate	10%	43%	48%	34%	32%	34%
Unemployment	26	48	26	36	33	31
Inflation Rate	24	67	10	60	29	12
Dow Jones IA	64	19	17	52	21	26

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

Similarly, 74 percent of Council respondents believe the unemployment rate will be the same or lower during the next six months. Opinion about unemployment one year from now is much more diverse.

A strong majority of Council members (67 percent) believe the inflation rate will stay stable during the next six months. The metropolitan Phoenix inflation rate during 1985 averaged approximately 5 percent. There is also very strong optimism about the stock market, with 64 percent believing that in six months the market will exceed the current 1500 range for the Dow Jones Industrials. Slightly more than one-half (52 percent) believe the market will be higher 12 months from today than at present.

Asked to project the year in which the national economy will again go into recession, nearly two-thirds of respondents (64 percent) believe that 1987 will bring the next major turning point in the business cycle. This figure represents an increase over the 51 percent in the summer survey who predicted a recession in 1987. While 19 percent of the respondents expect a recession later than 1987, 17 percent expect a recession sometime in 1986.

—Lee R. McPheters

Dr. McPheters is Professor of Economics in the ASU College of Business and Director of the Bureau of Business and Economic Research.

'85 Population Gain Sets Record

Arizona's population increased more between July 1, 1984, and June 30, 1985, than during any prior fiscal year (population estimates traditionally are made as of July 1). According to data from a new population model developed by the Bureau of Business and Economic Research, the 135,000-person increase exceeded the 125,000-person gain of the prior fiscal year; the previous record had been 121,000 in fiscal 1979.

ESTIMATING THE POPULATION

An accurate population count is generally available only once every 10 years - at the decennial census, last taken April 1, 1980. Between these censuses, the population must be estimated from other data, such as passenger car registrations or the size of the labor force. Several methods are commonly used, frequently resulting in widely different population estimates. For example, midyear 1985 assessments of the Arizona population, produced by local economists and demographers, vary by nearly 100,000 people. The Bureau's figure of 3,226,000 inhabitants is approximately midway between the two extremes.

The special census conducted during fall 1985 throughout Maricopa County probably will not resolve the differences in these estimates (a special census of the entire state is not available). Special censuses always present the danger of an undercount. The Bureau's estimate of the Maricopa County population on September 30, 1985, is 1,835,000.

In the study just completed, the Bureau selected two housing variables - occupied housing units and first-time electrical connections - to produce the population estimates. Mountain West Research collects these data quarterly for Maricopa County only. However, because Maricopa County encompasses such a large share of the state's population and because population trends in Maricopa County are similar to those in the rest of the state, the Arizona population can also be accurately assessed from Maricopa County housing data.

Population estimates are derived separately, both quarterly and annually, from occupied housing units and from first-time electrical connections. Each series exhibits a small but opposite bias in estimating population, which provides a cross-check in generating the final estimate. The number of first-time electrical connections tends to overstate population gains during recessions and other periods of rising vacancies; an offsetting underestimate occurs during economic recoveries. The change in the number of occupied housing units tends to understate population gains during recessions and overstate increases during recoveries. Such factors as job loss during recessions cause a small portion of the population to temporarily share the same housing unit.

POPULATION GROWTH PATTERNS

Most of Arizona's population gains derive from net in-migration, rather than from the net natural increase of births minus deaths. Since migration is highly cyclical, population gains are far from uniform. As seen in Table 1, population increases slightly lag the economic cycle. They are much smaller during years of economic recession and the period that immediately follows, exemplified by fiscal 1975 and 1976. Net in-migration to Arizona peaks late in an economic expansion - the case during fiscal 1979.

TABLE 1
STATE AND LOCAL POPULATION ESTIMATES
(On July 1)

	Total		Change		Percent Change	
Year	*Arizona*	*Maricopa Co.*	*Arizona*	*Maricopa Co.*	*Arizona*	*Maricopa Co.*
1970	1,795,000	979,800	—	—	—	—
1971	1,896,000	1,026,400	101,000	46,600	5.6%	4.8%
1972	2,009,000	1,087,200	113,000	60,800	5.9	5.9
1973	2,125,000	1,156,700	116,000	69,500	5.8	6.4
1974	2,224,000	1,217,400	99,000	60,700	4.7	5.2
1975	2,286,000	1,253,900	62,000	36,500	2.8	3.0
1976	2,348,000	1,280,000	62,000	26,100	2.7	2.1
1977	2,427,000	1,329,800	79,000	49,800	3.4	3.9
1978	2,518,000	1,388,900	91,000	59,100	3.7	4.4
1979	2,639,000	1,456,800	121,000	67,900	4.8	4.9
1980	2,735,000	1,519,000	96,000	62,200	3.6	4.3
1981	2,819,000	1,567,000	84,000	48,000	3.1	3.2
1982	2,891,000	1,607,000	72,000	40,000	2.6	2.6
1983	2,966,000	1,650,000	75,000	43,000	2.6	2.7
1984	3,091,000	1,726,000	125,000	76,000	4.2	4.6
1985	3,226,000	1,811,000	135,000	85,000	4.4	4.9

Source: Arizona Department of Economic Security (1970-79); Bureau of Business and Economic Research, College of Business, Arizona State University (1980-85).

This cyclicality largely results from changes in employment opportunities. During a recession, fewer jobs are available, and the chance of becoming unemployed is greater. Therefore, people postpone their moves. By the time a change in the economic cycle is perceived and people have prepared to migrate, a lag results.

Three successive subpar years, due to two economic recessions between 1980 and 1982, created a "pent-up demand" of people wishing to move to the Sunbelt; this resulted in Arizona's record population gains during fiscal 1984 and 1985. Despite these successive record years, the 98,000-person average annual population increase during the 1980s has barely exceeded the 94,000 average of the 1970s. No trend is apparent in the magnitude of net in-migration to Arizona.

Nearly 60 percent of the state's population gain occurs in Maricopa County. Growth in the Phoenix metropolitan area, on a percentage basis, is greater than that of Arizona as a whole only because of the state's larger population base.

OUTLOOK

Arizona population increases during the next several years probably will be comparable to those of 1970-85. No indications exist of impending significant changes in the birth rate, death rate, in-migration or out-migration. The aging of the baby boom generation raises the possibility of a slowing of in-migration during the 1980s, since a majority of migrants to Arizona are less than 40 years old. While senior citizens between 60 and 70 years old are also responsible for heavy net in-migration to Arizona, the number of people in this age bracket will not increase substantially until after the year 2000.

During the remainder of the 1980s, therefore, Arizona population flows will be dependent primarily on the economic cycle. A slight slowdown in net in-migration is likely during fiscal 1986 - a lagged response to the sluggish economy and the steep rise in the Arizona unemployment rate during the first half of 1985. However, no such slowdown was yet evident in the July-to-September period. As long as the economy doesn't slip into recession, population increases are unlikely to decelerate sharply.

—Tom R. Rex
Research Manager

Homebuyer Survey Reveals Lifestyle Considerations

The desire to own, not rent, is the primary reason why Phoenix area residents buy a home, according to a survey of 350 recent homebuyers by the Arizona Real Estate Institute in the College of Business at Arizona State University. This factor was highly important to 69 percent of the respondents, followed by wanting a better home (57 percent), wanting a better neighborhood (51 percent), and needing a larger home (45 percent).

Sponsored by Phoenix Magazine Publishing, Inc., the survey examined lifestyle as expressed both within the home and in the outside environment that encompasses status, style, reputation, linkages (retail, work, schools) and amenities. The factors considered least important were the need for a smaller home (86 percent), the desire to be closer to work (62 percent) and proximity to friends/relatives (68 percent).

DESIRED FEATURES

The survey confirmed that new home owners usually make changes to express their own lifestyles or interests. For instance, 71 percent of new home buyers purchased drapes ($1,000), in contrast to 22 percent of the resale home buyers surveyed ($400). Appliances were popular purchases, especially refrigerators, washing machines, and dryers. Probably due to the dual-income household, 23 percent of the new home buyers purchased a new car ($13,000), while 4 percent bought a used car ($4,500).

Most homebuyers have to make trade-offs of certain desired features relative to the home price or to other more desired features. For all of the survey respondents, the most desired feature was a large bedroom (suitable for a queen-size or king-size bedroom suite). Others included a fence, enclosed garage, eating area in the kitchen, and one bedroom per household member (in addition to the master bedroom). Features that tended to have low desirability included common recreational facilities, a formal dining area, and a solar heating system.

TOWNHOUSE/CONDO BUYERS

Since the townhouse/condominium sector represents a distinctly different potential lifestyle from that of the single family sector, buyers of the former were asked to indicate the relative importance of various reasons for making their purchase. Few differences existed between the resale and new home buyer groups. Less maintenance topped the list of reasons (72 percent), followed by preferred lifestyle (50 percent), common area facilities (42 percent), better security (39 percent), and the best way to buy a first home (35 percent).

The respondents were asked whether they would again buy a townhouse/condominium home. No definite pattern was established, with 38 percent saying they would buy another, 32 percent indicating they would not, and 30 percent undecided. The leading reason for not buying another townhouse/condominium was a preference for single family detached homes (70 percent). Other reasons included poor construction (50 percent), loss of privacy (40 percent), problems with the homeowners' association (50 percent), and poor maintenance of the common area (50 percent).

—Jay Q. Butler

Dr. Butler is Associate Professor of Real Estate in the College of Business, Arizona State University. He also serves as Director of the Arizona Real Estate Institute.

Third Quarter Construction Activity Strong in All Sectors

The Arizona construction industry continued during third quarter 1985 to exceed the expectations of a year ago with 28,028 permits, valued at $1.5 billion, recorded. Like the first and second quarters, the third quarter showed improvement over the one before. Through the third quarter, a total of $4.4 billion in new construction activity was permitted, in contrast to $4 billion for the same period of 1984. If activity were to continue on this track for the remainder of 1985, it would be the third consecutive year of improvement, a new record.

As shown in the accompanying tables, third quarter activity was strong in all sectors. Maricopa County continued to predominate with 16,838 permits, valued at $1.1 billion — 73 percent of all recorded activity. Through third quarter 1985, construction activity worth $3.2 billion was authorized, compared to $2.9 billion for the first three quarters of 1984. With $212 million of permitted activity for the third quarter, Pima County registered 14 percent of the total. The county's three-quarter total of $617 million contrasted with $582 million for the first three quarters of 1984. Based on total dollar value of issued permits, Table 4 presents the 12 most active reporting units, which represent 87 percent ($1.3 billion) of all Arizona construction for the third quarter.

SECTORAL ACTIVITY

Residential

Until recently, the single family sector has not been a leading sector of construction activity. Stimulated by lower mortgage interest rates, however, it has begun to regain its importance. With a state total of 8,905 single family permits recorded in the third quarter, 26,859 homes have been authorized. As a result, 1985 is well on its way to becoming the best year since 1979, when 35,477 permits were issued.

FIGURE I
SALES ACTIVITY: NEW SINGLE FAMILY HOMES PRICED BELOW $80,000 vs. ABOVE $80,000 (Maricopa County, 1982-85)

Source: Arizona Real Estate Institute, College of Business, Arizona State University

TABLE 1
KEY SECTOR CONSTRUCTION ACTIVITY
(Third Quarter 1985, Second Quarter 1985 and Third Quarter 1984)

	SINGLE FAMILY		COMMERCIAL							
			APARTMENTS[a]		OFFICE BUILDINGS[b]		RETAIL STORES[c]		INDUSTRIAL	
	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value
Maricopa County										
Third Quarter 1985	6,274	435,941,193	376	176,079,383	124	91,485,756	275	65,232,553	171	115,423,175
Second Quarter 1985	6,332	424,502,020	370	153,852,226	128	167,890,636	258	80,417,322	133	35,206,401
Third Quarter 1984	4,626	312,765,251	517	176,245,746	96	118,924,753	207	29,699,100	183	78,747,547
Pima County										
Third Quarter 1985	1,121	67,695,415	55	35,886,630	30	49,225,503	21	4,878,165	16	5,306,200
Second Quarter 1985	1,145	71,052,603	32	38,431,650	30	11,068,023	21	4,259,720	11	19,487,420
Third Quarter 1984	885	53,237,603	63	34,778,291	22	10,040,262	12	2,841,930	26	6,579,358
Rest of Arizona										
Third Quarter 1985	1,510	73,535,988	72	28,537,404	43	5,533,570	79	6,348,235	31	9,038,026
Second Quarter 1985	1,924	84,479,812	62	26,817,026	46	3,648,513	94	6,717,111	47	18,490,020
Third Quarter 1984	1,362	63,643,095	29	7,001,471	50	4,414,228	66	7,864,426	27	4,443,907
Arizona Total										
Third Quarter 1985	8,905	577,172,596	503	240,503,417	197	146,244,829	375	76,458,953	218	129,767,401
Second Quarter 1985	9,401	580,034,435	464	219,100,902	204	182,607,172	373	91,394,153	191	73,183,841
Third Quarter 1984	6,873	429,645,949	609	218,025,508	168	133,379,243	285	40,395,456	236	89,770,812

[a] Five or more housing units.

[b] Office, bank, medical, and professional buildings.

[c] Shopping centers and other mercantile buildings.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

Maricopa County recorded 6,274 single family permits, for a year-to-date total of 18,883. If this sector should continue at its current level, it will have the best year since 1978's record of 30,479 permits. Although the number of single family permits declined in the third quarter, total dollar value rose to $436 million from the second quarter level of $425 million. This movement represents increased construction of more expensive homes. Figure I shows that sales activity for $80,000-and-up homes has appreciably improved as the move-up buyer has become a stronger market force. As shown in Table 1, the single family sector also posted declines in Pima County and in the non-metropolitan counties.

Although these levels of single family activity exceed those of the last several years, some had hoped for even greater improvement, given the much lower interest rates. Such expectations, however, failed to recognize that two years of solid activity had alleviated most of the pent-up demand; that consumers had already taken on significant debt burdens during more than two years of economic expansion; and that housing in the 1980s cannot be equated to housing in the 1970s, when low interest rates and rapid housing appreciation greatly stimulated home sales. Basically, it appears that lower rates had the fundamental impact during 1985 of sustaining the housing market, rather than dramatically improving it.

Commercial

Throughout 1985, there was much-publicized concern about the strength of the office building sector in Maricopa County. However, construction activity continued at a high level in the third quarter, with project permits valued at $91 million. The year-to-date total of $335 million is comparable to the $350 million recorded for all of 1984. In Pima County, the office building sector achieved a record quarter, with $49 million in permits issued. Leading the activity was a permit worth $21 million for the 21-story United Bank Tower in Tucson. This sector also improved in the non-metropolitan counties, moving to a third quarter permit value of $5.5 million from $3.6 million in the second quarter, an average value of $128,000.

In Maricopa County, the multifamily sector declined slightly to 5,921 authorized units, from the 5,955 units of the second quarter. With a year-to-date total of 20,286 units, 1985 will be the second-best year recorded, staying well below the 30,284 units authorized in 1984. Although the number of permitted units declined in the third quarter, the dollar value increased appreciably to $176 million from $154 million in the second quarter. This situation reflects the development of larger units with amenities that are more competitive with other projects and with the growing single family market. The multifamily sector also declined in Pima County to 1,232 units from 1,422 units.

The multifamily sector also declined in the non-metropolitan counties to 1,082 units from 1,630 units in the second quarter, but the year-to-date total of 4,156 units is already a record level of activity; only 1,500 units were permitted during all of 1984. For the third quarter, the leading areas of activity were the cities of Yuma (416 units) and Casa Grande (488 units).

TABLE 2
ARIZONA HOUSING UNITS AUTHORIZED
Third Quarter 1985

	One Family	*Mobile Homes*	*Duplex*	*3-4 Family*	*5 or More*	*Total*
APACHE COUNTY	23	17	0	0	0	40
Percent Change, Previous Year	-50	21	0	0	—	-33
Percent Change, Previous Quarter	-36	30	0	0	—	-18
COCHISE COUNTY	93	85	0	0	20	198
Percent Change, Previous Year	25	-10	—	0	122	11
Percent Change, Previous Quarter	1	7	—	0	-96	-73
COCONINO COUNTY	265	147	8	0	0	420
Percent Change, Previous Year	11	24	-76	—	—	4
Percent Change, Previous Quarter	21	-7	-33	—	—	-46
GILA COUNTY	89	31	0	4	8	132
Percent Change, Previous Year	15	-53	0	—	-87	-35
Percent Change, Previous Quarter	-26	-58	—	0	-75	-44
GRAHAM COUNTY	20	48	0	4	0	72
Percent Change, Previous Year	-13	45	0	0	0	19
Percent Change, Previous Quarter	11	41	0	—	0	38
GREENLEE COUNTY	1	0	0	0	0	1
Percent Change, Previous Year	0	—	0	0	0	-66
Percent Change, Previous Quarter	—	—	0	0	0	—
LA PAZ COUNTY	4	38	0	0	0	42
Percent Change, Previous Year	33	15	—	—	—	16
Percent Change, Previous Quarter	0	0	—	—	—	0
MARICOPA COUNTY	6,274	521	152	230	5,921	13,098
Percent Change, Previous Year	35	53	22	-51	-20	0
Percent Change, Previous Quarter	0	10	-8	-31	0	-1
MOHAVE COUNTY	177	412	2	3	34	628
Percent Change, Previous Year	-1	18	-93	-91	3	0
Percent Change, Previous Quarter	-53	1	0	-96	-2	-30
NAVAJO COUNTY	174	150	2	0	24	350
Percent Change, Previous Year	-3	206	-75	—	—	45
Percent Change, Previous Quarter	-48	89	—	—	—	-16
PIMA COUNTY	1,121	567	48	30	1,232	2,998
Percent Change, Previous Year	26	12	-25	15	-32	-9
Percent Change, Previous Quarter	-2	-2	-29	-44	-13	-8
PINAL COUNTY	106	189	26	28	520	869
Percent Change, Previous Year	58	-1	—	75	306	116
Percent Change, Previous Quarter	-16	-12	550	39	50	22
SANTA CRUZ COUNTY	27	51	0	3	0	81
Percent Change, Previous Year	0	2,450	—	—	—	179
Percent Change, Previous Quarter	-3	131	—	—	—	61
YAVAPAI COUNTY	368	329	20	57	54	828
Percent Change, Previous Year	21	67	0	119	-20	34
Percent Change, Previous Quarter	-9	53	-16	32	-61	0
YUMA COUNTY	163	112	2	22	422	721
Percent Change, Previous Year	40	-1	-50	266	580	138
Percent Change, Previous Quarter	23	-19	—	-67	229	54
TOTAL, ARIZONA	8,905	2,697	260	381	8,235	20,478
Percent Change, Previous Year	30	27	-9	-37	-14	5
Percent Change, Previous Quarter	-5	6	-7	-38	-8	-6

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: **Bureau of Business and Economic Research, College of Business, Arizona State University.**

Although the retail sector in Maricopa County posted a decline, dropping to $65 million from $80 million, a total of $208 million in new retail projects was permitted through third quarter 1985. This dollar value already exceeds the level of activity for all of 1984 ($168 million). The new record was achieved through development of convenience and neighborhood shopping centers, not larger centers such as regional malls. Retail activity increased slightly in Pima County (to $4.9 million from $4.3 million), while it declined in the non-metropolitan counties (to $6.2 million from $6.7 million).

Industrial

Industrial activity in Maricopa County established a quarterly record with permits valued at $115 million. The year-to-date total for this sector is $241 million, which is greater than in 1984 ($224 million), the previous record year. A single permit, however, issued in Mesa to the McDonnell-Douglas Helicopter Corp. accounted for more than $50 million of the reported activity. In Pima County, industrial activity declined to $5 million from $19 million in the second quarter. The non-metropolitan counties followed a similar pattern (to $9 million from $18 million). The cities of Yuma (3 permits at $2.1 million) and Casa Grande (4 permits at $1.7 million) and the Kingman area (2 per-

TABLE 3
ARIZONA BUILDING PERMITS
Third Quarter 1985

	Residential*		Commercial		Industrial		Other		Total	
	Number of Permits	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*
APACHE COUNTY	56	1,163,613	3	162,874	0	0	4	3,000	63	1,329,487
Percent Change, Previous Year	-18	1	0	150	0	0	-66	-96	-25	2
Percent Change, Previous Qtr.	-12	-31	0	1,229	0	0	-42	-85	-14	-22
COCHISE COUNTY	318	6,416,244	11	7,557,240	4	258,124	349	4,818,833	682	19,050,441
Percent Change, Previous Year	19	23	-52	114	—	—	14	262	14	89
Percent Change, Previous Qtr.	21	6	-44	-17	300	771	-12	-2	0	-5
COCONINO COUNTY	665	17,796,820	8	2,759,741	4	541,655	160	10,096,745	837	31,194,961
Percent Change, Previous Year	20	11	-67	157	-59	-80	33	403	18	42
Percent Change, Previous Qtr.	14	12	-78	-61	-42	96	11	690	9	27
GILA COUNTY	237	4,696,629	10	1,331,029	1	15,000	40	1,167,857	288	7,210,515
Percent Change, Previous Year	-5	10	-23	-24	-75	-31	11	50	-4	5
Percent Change, Previous Qtr.	-24	-30	-41	-4	-87	-95	-31	-25	-27	-28
GRAHAM COUNTY	128	1,672,166	10	137,300	1	83,000	25	2,815,400	164	4,707,866
Percent Change, Previous Year	29	16	-28	-75	0	1,744	47	382	25	81
Percent Change, Previous Qtr.	15	21	-16	-16	—	—	-16	2,616	7	186
GREENLEE COUNTY	1	15,000	0	0	0	0	2	8,200	3	23,200
Percent Change, Previous Year	-75	9	0	0	0	0	—	—	-25	68
Percent Change, Previous Qtr.	0	500	0	0	0	0	—	—	200	827
LA PAZ COUNTY	60	770,072	3	276,558	0	0	41	319,051	104	1,365,681
Percent Change, Previous Year	1	-9	200	2,204	—	—	86	164	25	34
Percent Change, Previous Qtr.	-3	-16	-39	92	—	—	-38	-47	-22	-19
MARICOPA COUNTY	8,706	459,036,277	892	388,574,844	171	115,423,175	7,067	136,123,518	16,838	1,099,157,814
Percent Change, Previous Year	33	39	-27	-1	-8	46	16	19	20	19
Percent Change, Previous Qtr.	-2	2	-2	-10	28	227	-11	-19	-6	1
MOHAVE COUNTY	805	11,576,825	57	3,003,740	4	1,577,375	412	1,508,636	1,278	17,666,576
Percent Change, Previous Year	5	-21	0	-44	300	294	-27	-31	-8	-22
Percent Change, Previous Qtr.	-24	-33	-65	-71	-19	458	-34	-33	-31	-42
NAVAJO COUNTY	476	6,985,147	12	1,123,188	1	69,720	104	739,365	593	8,917,420
Percent Change, Previous Year	20	-16	-14	-18	—	—	103	-53	29	-21
Percent Change, Previous Qtr.	-17	-40	-7	184	-50	33	0	-13	-14	-32
PIMA COUNTY	2,858	73,787,191	123	100,195,409	16	5,306,200	1,538	32,431,086	4,535	211,719,886
Percent Change, Previous Year	37	24	-14	65	-38	-19	-10	3	14	34
Percent Change, Previous Qtr.	12	-11	19	50	45	-72	-20	-3	-1	4
PINAL COUNTY	394	7,873,797	60	19,158,155	4	1,671,454	340	2,609,365	798	30,312,771
Percent Change, Previous Year	20	105	139	441	33	5,471	58	33	40	230
Percent Change, Previous Qtr.	-14	-1	87	114	-50	-89	39	61	7	-9
SANTA CRUZ COUNTY	78	1,391,831	1	60,000	1	706,000	4	20,785	84	2,178,616
Percent Change, Previous Year	129	0	—	—	0	101	-59	-94	86	8
Percent Change, Previous Qtr.	50	-6	—	—	—	—	-19	45	47	45
YAVAPAI COUNTY	900	24,785,090	49	13,838,579	6	1,229,468	282	4,943,456	1,237	44,796,593
Percent Change, Previous Year	23	17	16	100	200	814	-14	1	12	35
Percent Change, Previous Qtr.	10	-12	2	45	19	89	0	105	7	9
YUMA COUNTY	335	11,993,494	69	16,856,198	5	2,886,230	115	5,659,770	524	37,395,692
Percent Change, Previous Year	15	28	165	265	25	325	14	72	24	109
Percent Change, Previous Qtr.	-14	13	32	199	-50	119	-17	240	-11	95
TOTAL, ARIZONA	16,019	629,960,196	1,308	554,034,855	218	129,767,401	10,483	203,265,067	28,028	1,517,027,519
Percent Change, Previous Year	28	32	-19	14	-7	44	9	23	17	24
Percent Change, Previous Qtr.	-1	-1	-7	0	14	77	-13	-7	-6	2

*Includes mobile homes.

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

mits at $1.1 million) led industrial activity in the non-metropolitan counties.

Other

This sector consists of several types of permitted activity such as schools and health care facilities. Permits for the construction of new educational facilities in the state were valued at $25 million in the third quarter, well down from the $46 million recorded in the second quarter. The three-quarter total of $91 million, however, greatly exceeds the $39 million recorded for all of 1984. Leading areas of third quarter activity included Flagstaff (5 permits at $7 million), Chandler (1 permit at $2.7 million) and Tucson (2 permits at $2.5 million).

With $20 million of permitted activity in the third quarter, health care facilities have a year-to-date total of $44 million, down from the $98 million recorded for the same period of 1984. More than $12 million of the quarterly activity occurred in non-metropolitan counties, including areas such as Sierra Vista (3 permits at $2.5 million), Safford (2 permits at $2.7 million), Prescott (2 permits at $2.5 million), and Yuma (1 permit at $2.5 million).

LOOKING AHEAD

Through third quarter 1985, practically every construction sector neared or exceeded record levels of activity. The construction industry has been stimulated by strong economic growth, declining interest rates, and record population growth. Given the spectacular nature of activity in 1985, concern exists about what to expect in 1986.

Multifamily and office building projects have led much of the current activity. These sectors are expected to slow in 1986 as the market works to absorb all of the new space, and developers judge the strength of the market. Because a couple of major office projects have start dates in early 1986, this sector could exhibit strong activity during the first part of the year. The retail sector should continue at a fairly strong pace to provide needed space in new residential areas. The main limitation appears to be the desire of retailers to occupy the new space.

The record industrial activity has been due primarily to the development of single-user, large-scale projects. If the economy should continue to grow, the industrial sector has potential for further expansion in 1986. Due to lower interest rates and recent population growth, the single family sector should have a good year, though slightly below the level of 1985. Even with an expected decline, the housing industry should post its fourth consecutive year of consistent activity, which is very unusual for the industry.

Construction activity is closely related to the strength and direction of the economy, and expectations are that the economy will grow, but at a slower pace. Given this expectation and the record levels of current construction activity, no single sector should dominate; combined, they should produce a very favorable level of activity in 1986. The year should begin on a strong note, building on the current level; however, due to the slow economy, construction activity should diminish as the year continues, finishing 1986 at a slower pace.

—Jay Q. Butler

Dr. Butler is Associate Professor of Real Estate in the College of Business, Arizona State University. He also serves as Director of the Arizona Real Estate Institute.

TABLE 4
REPORTING UNITS WITH GREATEST TOTAL VALUE OF BUILDING PERMITS
Third Quarter, 1985

Reporting Unit	Value (In Millions)
Phoenix	$345.6
Mesa	216.5
Scottsdale	164.6
Tucson	117.5
Tempe	102.7
Unincorporated Pima County	93.0
Chandler	77.9
Unincorporated Maricopa County	69.5
Glendale	60.6
Unincorporated Yavapai County	28.4
Yuma	26.2
Peoria	21.7

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

Alternative Employment Measures

"Not-Working Ratio" May Better Gauge Economic Health

The unemployment rate has long been used as a measure of economic health. Changes in the behavior of this indicator since the late 1960s, however, necessitate searching for alternative measures.

The cyclical nature of the unemployment rate - typically, it begins to rise prior to the onset of a recession and commences to decline at, or shortly after, the start of a recovery - remains its main value. In addition, for many years, "full employment" was defined as 3 to 4 percent unemployment; a higher rate indicated the economy was not at full strength.

Since the late 1960s, however, the unemployment rate has trended up, barely dipping below 6 percent during the last 10 years. In the current economic cycle, the rate has remained mired at 7 percent or more.

By historical standards, even those of the last 10 years, the current rate indicates an economy with considerable slack; a labor shortage, which brings on rising wages and inflation as well as production bottlenecks, seems nowhere in sight. The rising trend of the rate, in conjunction with other economic indicators, places this conclusion in doubt.

EMPLOYMENT-POPULATION RATIO

Alternative employment measures help to resolve this confusion. In addition to the unemployment rate, the U.S. Department of Labor publishes an employment-population ratio: the number of people employed divided by working-age population. This ratio is also cyclical, but its trend has been opposite that of the unemployment rate. Since the mid-1960s, the proportion of the population that is working has risen, largely because of the increasing labor force participation rate of females. This creation of proportionately more jobs each economic

cycle indicates an increasingly vibrant economy; in contrast, the rising unemployment rate suggests a weakening economy.

NOT-WORKING RATIO

Another way to express the employment-population ratio is the proportion of the working-age population not at work. This measure has two specific components - the unemployed and those not in the work force. Thus, in one cyclical measure, both employment and unemployment are counted. Further, "discouraged workers" (those who would like to work but have dropped out of the labor force) are automatically included in the not-working ratio; the exclusion of these people has been a shortcoming of the unemployment rate.

During 1984, the not-working ratio fell to a level near the all-time low of 1979, as illustrated in Figure I. It declined further in 1985, a portent of coming labor pressures. Instead of the slack indicated by the unemployment rate, the not-working ratio suggests that the economy could not resume vigorous expansion without problems.

Thus, two measures generated by the same government source paint opposite pictures of current economic health. While a definitive answer as to which indicator is more accurate is not available, some hypothesizing may shed light on this question. The vast number of new jobs created during the last 20 years, filled by people who were not previously in the work force, suggests that some of the unemployed are "unemployable" - they do not have the skills necessary to be of value to an employer in today's rapidly changing economic and social environment. If this is the case, the unemployment rate is more a measure of displacements caused by an evolving economy than a measure of economic health.

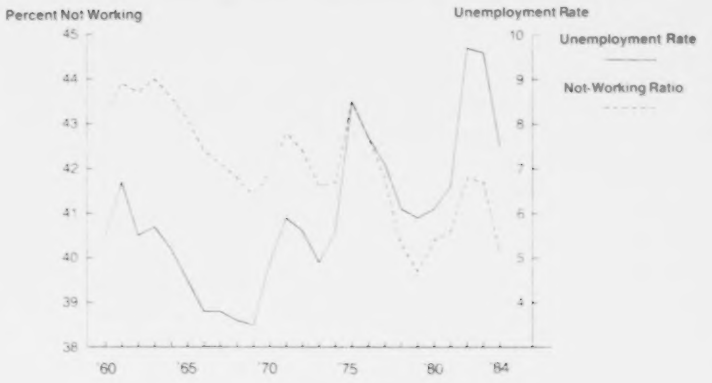
ARIZONA MEASURES

The unemployment rate in Arizona, while cyclical, has been more volatile than the national rate. For example, during the current economic expansion, the Arizona rate first fell to near 4 percent, then rose sharply to 6.7 percent, despite an economy that continues to grow. Thus, the unemployment rate in Arizona is also difficult to interpret as a gauge of the state's economic health.

A not-working ratio can be created for Arizona, but only on an annual basis because of the lack of timely estimates of working-age population. As shown in Figure II, a consistently smaller proportion of the Arizona working-age population has been employed, compared to the national average. The differential cannot be traced to the unemployment rate, since it is usually lower in Arizona. Nor do non-working senior citizens explain the difference, since the proportion of the population 65 years and older is nearly identical in Arizona to the national average. Simply, a smaller proportion of Arizonans are part of the work force. However, the state's not-working ratio declined during 1984 to its lowest point, demonstrating the strength of the Arizona economy.

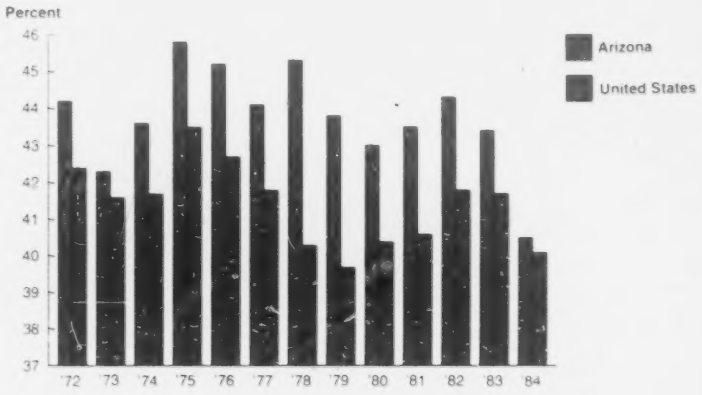
—Tom R. Rex
Research Manager

FIGURE I
LONG-TERM TREND: UNEMPLOYMENT RATE RISING, NOT-WORKING RATIO FALLING
United States



Source: U.S. Department of Labor and the Bureau of Business and Economic Research, College of Business, Arizona State University

FIGURE II
NOT-WORKING PROPORTION
Arizona and the United States



Source: Bureau of Business and Economic Research, College of Business, Arizona State University

Purchasing Indicators Creep Forward in November

The Arizona economy continued on a slow growth curve in November, with the indicators of activity showing only small advances (Table 1). New orders received from customers, lead time on shipments from vendors, employment, and purchase commitments all continued to increase at a modest rate. Production grew at the lowest rate since the expansion began almost three years ago. Inflation showed signs of heating up, although the rate of price increases still remained well under those recorded in 1983 and 1984. Arizona firms continued to cut inventories in November, for the third consecutive month, holding down the overall rate of expansion.

PRICES/DELIVERY TIME

Prices paid for major purchased items increased in November at a pace more than twice as great as in October. While the November net increase was the largest in seven months (since April 1985), it still was smaller than in almost any month of the previous two years. As expected, the rate of inflation is speeding up, but it is not likely to return to the uncomfortable rates of a few years ago. This relative price stability has been one of the major factors permitting the long-run growth curve to continue over the past three years.

Delivery time on shipments from vendors stretched at the same rate as in the previous month. The October and November net increases were the largest so far this year, showing that demand on vendors stepped up in the fourth quarter.

INVENTORIES/NEW ORDERS

Inventory levels of purchased materials dropped for the third consecutive month and at the same rate as in October. Inventory has decreased in six of the eleven months of 1985. This reduction of stocks has been a major factor holding economic growth to only moderate levels, but it positions the economy to avoid any downswing induced by enforced inventory reductions. Also, should new order receipts begin to increase, inventory rebuilding has the potential to cause an escalation in the economic growth curve.

New orders received by Arizona firms went up in November at a slightly higher rate than in October. The new order rate has been positive in each month since January 1983, when the current economic expansion began, although the growth rate was much smaller during 1985 than in the first two years of the expansion.

PRODUCTION/EMPLOYMENT

Production also advanced but at its lowest rate in 1985 and at the smallest rate since the expansion began almost three years ago. Production will remain in the doldrums until a pronounced upswing occurs in new order bookings.

Employment by Arizona firms rose at the highest rate of the preceding three months, but it still was well under the increases registered in the earlier months of 1985. While employment growth over all of 1985 was moderate, no declines were recorded.

PURCHASES

Purchases of materials and supplies by Arizona firms were higher in November than in October, but the month-to-month increase rate was about the same in both months. Purchase commitments advanced through November 1985, although they were moderate compared to those during 1983 and 1984, due to slower growth in order bookings.

'85 REVIEW/'86 OUTLOOK

No major upturn in the growth curve occurred through November, and 1985 was ending on a note of only moderate growth - not unusual for an economy about to close out its third year of upward movement. No sign of recessionary weaknesses was evident through November, and a continuation of slow growth likely will occur well into 1986 and perhaps beyond. Inventory levels of purchased materials had been reduced in six of the preceding seven months, resulting in a favorable inventory-to-economic-activity situation. Any significant increase in new order bookings will trigger an inventory buildup, causing good hikes in purchase commitments, production, and employment. Expected further declines in interest rates should cause some increase in growth during the first half of 1986.

— Harold Fearon

Dr. Fearon is chairman of the Department of Purchasing, Transportation, Operations in the ASU College of Business and is the National Association of Purchasing Management Professor.

TABLE 1
NOVEMBER PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (November compared to October)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	24	71	5
Delivery time from vendors	25	63	12
Purchased materials inventory level	28	38	34
New orders received	39	36	25
Production	28	48	24
Employment	23	62	15
Purchases	37	46	17

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

Arizona Purchasing Survey

Now in its 24th year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data from a questionnaire sent to members of the purchasing management associations of Arizona and southern Arizona. It asks them to indicate the direction of activity — higher, unchanged, or lower — of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Year-to-Date Value	Year-to-Date Percent Change from Year Ago
GROSS STATE PRODUCT (In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	2nd Qtr.	45.139	4.7	10.9	NA	NA
Arizona - 1972 Dollars	2nd Qtr.	21.324	1.5	7.7	NA	NA
CONSUMER PRICE INDEX (1977 = 100)						
Metropolitan Phoenix	3rd Qtr.	191.4	0.3	4.5	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	Oct.	106.0	0.1	2.4	NA	NA
BUILDING PERMITS (Total Dollar Value in Thousands)						
Maricopa County	Sept.	326,726	- 9	24	3,217,699	8
Pima County	Sept.	54,599	- 33	46	617,525	5
Balance of State	Sept.	66,796	2	40	538,083	10
Arizona	Sept.	448,121	- 12	29	4,381,098	8
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	Sept.	3,859	- 26	5	42,132	- 13
Pima County	Sept.	989	- 20	67	9,955	- 19
Balance of State	Sept.	1,280	- 22	33	13,283	29
Arizona	Sept.	6,128	- 24	17	65,558	- 8
HOME SALES						
Maricopa County - Number	Oct.	5,958	26	20	46,981	0
Maricopa County - Median Price	Oct.	74,900	- 0.1	3.9	73,475	3.5
HOUSING AFFORDABILITY INDEXES						
Metropolitan Phoenix-New Homes	3rd Qtr.	81	3.8	18.4	NA	NA
Metropolitan Phoenix-Resale Homes	3rd Qtr.	90	3.4	15.7	NA	NA
MORTGAGE INTEREST RATES (Conventional, 30-year, Fixed-rate)						
Maricopa County	Oct.	12.0	- 0.8	*	NA	NA
Maricopa County	Nov.	11.6	- 3.3	*	NA	NA
ELECTRICAL POWER SALES (In Millions of Kilowatt Hours)						
Arizona	Oct.	2,584.9	- 13.0	20.5	30,267.0	7.1

NA = Not Applicable.

* = Not Available.

Source: Bureau of Business and Economic Research, College of Business, Arizona State University.

ARIZONA BUSINESS (ISSN 0093-0717) is mailed free to Arizona residents. Persons wishing to be placed on the mailing list should send their name and address to the Bureau of Business and Economic Research, College of Business, Arizona State University, Tempe, AZ 85287, or telephone (602) 965-3961.

Arizona State University vigorously pursues affirmative action and equal opportunity in its employment activities and programs.

ARIZONA BUSINESS is published monthly by the Bureau of Business and Economic Research, College of Business, Arizona State University. Signed articles do not necessarily reflect the views of Arizona State University. Permission to reprint articles granted upon request. Second class postage paid at Tempe, Arizona 85287.

ARIZONA BUSINESS is available on microfilm and in xerographic copies from University Microfilms, Ann Arbor, Michigan 48106.

Craig W. Kirkwood, Acting Dean
Lee R. McPheters, Bureau Director
Mary Wery Garcia, Editor

Cheryl Waldman
Congressional Info Service
4520 East-West Highway
Bethesda MD 20814